

CLAIMS

What is claimed is:

- 1 1. A method for supplying a consistent set of data to a software application, the
2 method comprising the steps of:
3 launching said software application;
4 identifying a particular set of data that is required by the software
5 application;
6 requesting a first process to obtain a snapshot time from a database server
7 associated with a first database, wherein the snapshot time causes all
8 subsequent reads of said first database by the first process to return
9 data that reflects a database state associated with the snapshot time;
10 after the first process obtains the snapshot time, causing the first process to
11 extract the particular set of data from the first database; and
12 supplying said software application with the particular set of data that was
13 extracted from the first database.

- 1 2. The method of Claim 1, further comprising the step of causing a second
2 process to store the particular set of data in a second database.

- 1 3. The method of Claim 1, wherein the step of identifying the particular set of data
2 includes the step of creating a copy table list, wherein the copy table list contains
3 entries that identify the particular set of data in the first database.

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4. The method of Claim 2, wherein the step of causing the second process to
store the particular set of data in the second database includes the steps of:
writing the particular set of data to one or more flat files; and
executing a loader process, wherein the loader process loads the particular set
of data from the one or more flat files to the second database.

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5. The method of Claim 3, further comprising the steps of:
executing a delete process, wherein the delete process uses the copy table list
to identify data that needs to be deleted in a second database; and
deleting the identified data from the second database.

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6. The method of Claim 3, wherein the step of writing the particular set of data
to one or more flat files includes the steps of:
the first process informing a coordinator process when it has finished writing
data to a particular flat file; and
the coordinator using the information to tell the loader process when it can
begin loading the flat file into the second database.

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7. The method of Claim 3, wherein the step of:
writing the particular set of data to the flat file includes the step of writing
the particular set of data to a plurality of flat files; and
executing the loader process includes the step of executing a plurality of
loader processes, wherein the plurality of loader processes load the

1 10. The method of Claim 1, wherein the step of supplying said software
2 application with data from said particular set of data includes the steps of:
3 writing the particular set of data to one or more flat files; and
4 supplying the one or more flat files to said software application, wherein said
5 software application generates a planning schedule based on
6 information contained in the one or more flat files .

1 11. A method for producing a copy of data from a first database, the method
2 comprising the steps of:
3 locking a first set of data in the first database;
4 after locking the first set of data,
5 requesting a plurality of processes to obtain snapshot times from a
6 database server associated with said first database, wherein
7 the snapshot times cause all subsequent reads of the first
8 database by the plurality of processes to return data from the
9 first database as of said snapshot times;
10 waiting a particular period of time for the plurality of processes to be
11 assigned snapshot times;
12 releasing the locks on the first set of data in the first database;
13 using a successful set of said plurality of processes to extract a copy
14 of the first set of data from the first database, wherein said
15 successful set includes only those processes of the plurality of
16 processes that were assigned a snapshot time within the
17 particular period of time; and
18 storing the copy of the first set of data separate from said first of data.

1 12. The method of Claim 11, wherein the step of identifying the first set of data
2 includes the step of creating a copy table list, wherein the copy table list
3 contains entries that identify the first set of data in the first database.

1 13. The method of Claim 12, where the step of creating the copy table list
2 includes the steps of:
3 identifying a set of planning data, where the planning data is required to
4 generate a planning schedule; and
5 creating the copy table list based on the planning data required to generate
6 the planning schedule.

1 14. The method of Claim 11, wherein the step of storing the copy of the first set
2 of data includes the steps of:
3 writing the copy of the first set of data to a plurality of flat files; and
4 executing a plurality of loader processes, wherein the plurality of loader
5 processes load the copy of the first set of data from the plurality of
6 flat files to a second database.

1 15. The method of Claim 12, further comprising the steps of:
2 executing a plurality of delete processes, wherein the plurality of delete
3 processes use the copy table list to identify data that needs to be
4 deleted in a second database; and
5 deleting the identified data from the second database.

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1 ~~16.~~ The method of Claim 11, wherein the step of requesting the plurality of
2 processes to obtain a snapshot time includes the step of requesting the
3 plurality of processes based on a user input parameter, wherein the user input
4 parameter identifies how many processes should be requested to obtain a
5 snapshot time.

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1 ~~17.~~ The method of Claim 11, wherein the step of extracting the copy of the first
2 set of data from the database includes the steps of:
3 assigning a set of copy data to the plurality of snapshot processes; and
4 retrieving data from the first database based on the set of copy data that was
5 assigned to the plurality of snapshot processes.

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1 ~~18.~~ The method of Claim ~~14~~, wherein:
2 the steps of writing the copy of the first set of data to a plurality of flat files
3 further includes the step of notifying a coordinator process that data
4 has been written to one of the plurality of flat files; and
5 the steps of executing the plurality of loader processes further includes the
6 step of the coordinator, upon being notified that data has been written
7 to one of the plurality of flat files, launching a loader process to load
8 the first set of data from one of the plurality of flat files to the second
9 database.

1 20. The method of Claim 11, wherein the step of storing the copy of the first set
2 of data includes the steps of storing the copy of the first set of data as blob
3 files that are separate from said first of data.

1 21. The method of Claim 11, wherein the step of storing the copy of the first set
2 of data includes the steps of storing the copy of the first set of data in said
3 first of data.

1 22. A computer-readable medium carrying one or more sequences of one or more
2 instructions for supplying a consistent set of data to a software application,
3 the one or more sequences of one or more instructions including instructions
4 which, when executed by one or more processors, cause the one or more
5 processors to perform the steps of:
6 launching said software application;
7 identifying a particular set of data that is required by the software application;
8 requesting a first process to obtain a snapshot time from a database server associated
9 with a first database, wherein the snapshot time causes all subsequent reads
10 of said first database by the first process to return data that reflects a database
11 state associated with the snapshot time;
12 after the first process obtains the snapshot time, causing the first process to extract
13 the particular set of data from the first database; and
14 supplying said software application with the particular set of data that was extracted
15 from the first database.

1 23. The computer-readable medium of Claim 22, wherein the computer-readable
2 medium further comprises instructions for performing the step of causing a
3 second process to store the particular set of data in a second database.

24.
25. The computer-readable medium of Claim 23, wherein the step of causing the
second process to store the particular set of data in the second database
includes the steps of:
writing the particular set of data to one or more flat files; and
executing a loader process, wherein the loader process loads the particular set
of data from the one or more flat files to the second database.

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1 27. A computer-readable medium carrying one or more sequences of one or more
2 instructions for producing a copy of data from a first database, the one or
3 more sequences of one or more instructions including instructions which,
4 when executed by one or more processors, cause the one or more processors
5 to perform the steps of:
6 locking a first set of data in the first database;
7 after locking the first set of data,
8 requesting a plurality of processes to obtain snapshot times from a database server
9 associated with said first database, wherein the snapshot times cause all
10 subsequent reads of the first database by the plurality of processes to return
11 data from the first database as of said snapshot times;
12 waiting a particular period of time for the plurality of processes to be assigned
13 snapshot times;
14 releasing the locks on the first set of data in the first database;
15 using a successful set of said plurality of processes to extract a copy of the first set of
16 data from the first database, wherein said successful set includes only those
17 processes of the plurality of processes that were assigned a snapshot time
18 within the particular period of time; and
19 storing the copy of the first set of data separate from said first of data.

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1 28. The computer-readable medium of Claim 27, wherein the step of identifying
2 the first set of data includes the step of creating a copy table list, wherein the
3 copy table list contains entries that identify the first set of data in the first
4 database.

1 29. The computer-readable medium of Claim 27, wherein the step of storing the
2 copy of the first set of data includes the steps of:
3 writing the copy of the first set of data to a plurality of flat files; and
4 executing a plurality of loader processes, wherein the plurality of loader
5 processes load the copy of the first set of data from the plurality of
6 flat files to a second database.

1 ³¹~~30~~. The computer-readable medium of Claim 27, wherein the step of extracting
2 the copy of the first set of data from the database includes the steps of:
3 assigning a set of copy data to the plurality of snapshot processes; and
4 retrieving data from the first database based on the set of copy data that was
5 assigned to the plurality of snapshot processes.

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31. The computer-readable medium of Claim 29, wherein the step of writing the
2 copy of the first set of data to the plurality of flat files includes the steps of:
3 the plurality of process informing a coordinator process when it has finished writing
4 data to a particular flat file; and
5 the coordinator using the information to tell one of the plurality of loader processes
6 when it can begin loading the particular flat file into the second database.

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1 32. A computer system for supplying a consistent set of data to a software
2 application, the computer system comprising:
3 a memory;
4 one or more processors coupled to the memory; and
5 a set of computer instructions contained in the memory, the set of computer
6 instructions including computer instructions which when executed by
7 the one or more processors, cause the one or more processors to
8 perform the steps of:
9 launching said software application;
10 identifying a particular set of data that is required by the software
11 application;
12 requesting a first process to obtain a snapshot time from a database
13 server associated with a first database, wherein the snapshot
14 time causes all subsequent reads of said first database by the
15 first process to return data that reflects a database state
16 associated with the snapshot time;
17 after the first process obtains the snapshot time, causing the first
18 process to extract the particular set of data from the first
19 database; and
20 supplying said software application with the particular set of data that
21 was extracted from the first database.

1 33. The computer system of Claim 32, further including instructions for
2 performing the step of causing a second process to store the particular set of
3 data in a second database.

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34. The computer system of Claim 32, wherein the step of identifying the
2 particular set of data includes the step of creating a copy table list, wherein
3 the copy table list contains entries that identify the particular set of data in
4 the first database.

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35. The computer system of Claim 33, wherein the step of causing the second
2 process to store the particular set of data in the second database includes the
3 steps of:
4 writing the particular set of data to one or more flat files; and
5 executing a loader process, wherein the loader process loads the particular set
6 of data from the one or more flat files to the second database.

1 ³⁵
36. The computer system of Claim ³⁴35, wherein the step of writing the particular
2 set of data to one or more flat files includes the steps of:
3 the first process informing a coordinator process when it has finished writing data to
4 a particular flat file; and
5 the coordinator using the information to tell the loader process when it can begin
6 loading the flat file into the second database.

37. A computer system for producing a copy of data from a first database, the computer system comprising:

- a memory;
- one or more processors coupled to the memory; and
- a set of computer instructions contained in the memory, the set of computer instructions including computer instructions which when executed by the one or more processors, cause the one or more processors to perform the steps of:
 - locking a first set of data in the first database;
 - after locking the first set of data,
 - requesting a plurality of processes to obtain snapshot times from a database server associated with said first database, wherein the snapshot times cause all subsequent reads of the first database by the plurality of processes to return data from the first database as of said snapshot times;
 - waiting a particular period of time for the plurality of processes to be assigned snapshot times;
 - releasing the locks on the first set of data in the first database;
 - using a successful set of said plurality of processes to extract a copy of the first set of data from the first database, wherein said successful set includes only those processes of the plurality of processes that were

24 assigned a snapshot time within the particular period of
25 time; and
26 storing the copy of the first set of data separate from said first
27 of data.

1 38. The computer system of Claim 37, wherein the step of identifying the first set
2 of data includes the step of creating a copy table list, wherein the copy table
3 list contains entries that identify the first set of data in the first database.

1 39. The computer system of Claim 37, wherein the step of storing the copy of the
2 first set of data includes the steps of:
3 writing the copy of the first set of data to a plurality of flat files; and
4 executing a plurality of loader processes, wherein the plurality of loader processes
5 load the copy of the first set of data from the plurality of flat files to a second
6 database.

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1 40. The computer system of Claim 37, wherein the step of extracting the copy of
2 the first set of data from the database includes the steps of:
3 assigning a set of copy data to the plurality of snapshot processes; and
4 retrieving data from the first database based on the set of copy data that was
5 assigned to the plurality of snapshot processes.

- 1 ~~41.~~ The computer system of Claim 39, wherein the step of writing the copy of
2 the first set of data to the plurality of flat files includes the steps of:
3 the plurality of process informing a coordinator process when it has finished
4 writing data to a particular flat file; and
5 the coordinator using the information to tell one of the plurality of loader
6 processes when it can begin loading the particular flat file into the
7 second database.

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